

PATENT

Atty. Dkt. No. AVIS.1014C.Y1

IN THE CLAIMS:

Please amend claim 17 as follows:

Claims 1-3 (Cancelled).

4. (Previously Presented) A method for purifying used oil, comprising:
mixing a raw used oil with a base compound to form a mixture comprising used oil and base compound;
processing the mixture comprising used oil and base compound to provide an at least partially dehydrated used oil mixture comprising used oil and base compound;
adding a phase transfer catalyst to the at least partially dehydrated used oil mixture comprising used oil and base compound to provide a used oil mixture comprising used oil, phase transfer catalyst, and base compound, wherein the phase transfer catalyst comprises a glycol; and
removing contaminants from at least a portion of the used oil mixture comprising used oil, phase transfer catalyst, and base compound.
5. (Cancelled).
6. (Previously Presented) The method of claim 4, wherein the phase transfer catalyst comprises ethylene glycol.
7. (Previously Presented) The method of claim 4, wherein removing contaminants from at least a portion of the used oil mixture comprising used oil, phase transfer catalyst, and base compound comprises distilling the used oil mixture at a temperature of about 200°C to about 275°C and a pressure of about 100 torr to about 200 torr.
8. (Previously Presented) The method of claim 4, wherein removing contaminants from at least a portion of the used oil mixture comprising used oil, phase

Page 2

364365_1

PATENT

Atty. Dkt. No. AVIS.1014C.Y1

transfer catalyst, and base compound comprises distilling the used oil mixture at a temperature of about 275°C to about 300°C and a pressure of about 0.05 torr to about 0.2 torr.

9. (Previously Presented) The method of claim 4, wherein removing contaminants from at least a portion of the used oil mixture comprising used oil, phase transfer catalyst, and base compound comprises distilling the used oil mixture at a temperature of about 200°C to about 300°C and a pressure of about 0.05 torr to about 200 torr.

10. (Cancelled).

11. (Previously Presented) The method of claim 4, wherein the base compound is an inorganic or organic base compound.

12. (Previously Presented) The method of claim 11, wherein the inorganic base compound is selected from the group consisting of sodium hydroxide, potassium hydroxide, and combinations thereof.

13. (Previously Presented) The method of claim 4, wherein the used oil mixture comprising used oil, phase transfer catalyst and inorganic base compound comprises of from about 1% to about 10% by weight of the phase transfer catalyst.

14. (Cancelled).

15. (Cancelled).

16. (Previously Presented) The method of claim 4, wherein the used oil comprises motor oil.

Page 3

364365_1

PATENT

Atty. Dkt. No. AVIS.1014C.Y1

17. (Currently Amended) A method for removing contaminants from a used petroleum distillate, comprising:

mixing a raw used petroleum distillate with a base compound to form a mixture comprising used petroleum distillate and base compound;

processing the mixture comprising used petroleum distillate and base compound to provide an at least partially dehydrated used petroleum distillate mixture comprising used petroleum distillate and base compound;

adding ethylene glycol to the at least partially dehydrated used petroleum distillate mixture comprising used petroleum distillate and base compound to provide a used petroleum distillate mixture comprising used petroleum distillate, ethylene glycol, and base compound; and

removing the contaminants from at least a portion of the used petroleum distillate mixture comprising used petroleum distillate, ethylene glycol, and base compound using means for distillation.

18. (Previously Presented) The method of claim 17, wherein the used petroleum distillate comprises motor oil.

19. (Previously Presented) The method of claim 17, wherein removing contaminants from at least a portion of the used petroleum distillate mixture comprising used petroleum distillate, ethylene glycol, and base compound comprises distilling the used petroleum distillate mixture at a temperature of about 200°C to about 275°C and a pressure of about 100 torr to about 200 torr.

20. (Previously Presented) The method of claim 17, wherein removing contaminants from at least a portion of the used petroleum distillate mixture comprising used petroleum distillate, ethylene glycol, and base compound comprises distilling the used petroleum distillate mixture at a temperature of about 275°C to about 300°C and a pressure of about 0.05 torr to about 0.2 torr.

PATENT

Atty. Dkt. No. AVIS.1014C.Y1

21. (Previously Presented) The method of claim 17, wherein removing contaminants from at least a portion of the used petroleum distillate mixture comprising used petroleum distillate, ethylene glycol, and base compound comprises distilling the used petroleum distillate mixture at a temperature of about 200°C to about 300°C and a pressure of about 0.05 torr to about 200 torr.

22. (Previously Presented) The method of claim 17, wherein the used petroleum distillate mixture comprising used petroleum distillate, ethylene glycol, and inorganic base compound comprises of from about 1% to about 10 % by weight of ethylene glycol.

23. (Cancelled).

24. (Cancelled).

25. (Previously Presented) A method for removing contaminants from used oil, comprising:

mixing used oil with ethylene glycol in the presence of a base compound to provide a used oil mixture comprising used oil, ethylene glycol and base compound; and

distilling the used oil mixture comprising used oil, ethylene glycol and base compound at a temperature of about 200°C to about 300°C and a pressure of about 0.05 torr to about 200 torr.

26. (Previously Presented) The method of claim 25, wherein the base compound comprises an inorganic compound.

27. (Previously Presented) The method of claim 26, wherein the inorganic base compound is selected from the group consisting of sodium hydroxide, potassium hydroxide, and combinations thereof.

PATENT

Atty. Dkt. No. AVIS.1014C.Y1

28. (Previously Presented) The method of claim 25, wherein the used oil mixture comprising used oil, ethylene glycol and base compound comprises of from about 1% to about 10% by weight of the ethylene glycol.

29. (Cancelled).

30. (Cancelled).

31. (Previously Presented) A method for removing contaminants from used motor oil, comprising:

mixing used oil with an inorganic base compound to provide a used oil mixture comprising used oil and inorganic base compound;

mixing the used oil mixture comprising used oil and inorganic base compound with a phase transfer catalyst to provide a used oil mixture comprising used oil, phase transfer catalyst and inorganic base compound, wherein the phase transfer catalyst comprises a glycol; and

distilling the used oil mixture comprising used oil, phase transfer catalyst and inorganic base compound at a temperature of about 200°C to about 275°C and a pressure of about 100 torr to about 200 torr to remove at least a portion of the phase transfer catalyst, providing a distilled used oil mixture.

32. (Previously Presented) The method of claim 31, wherein the inorganic base compound is selected from the group consisting of sodium hydroxide, potassium hydroxide, and combinations thereof.

33. (Cancelled).

34. (Previously Presented) The method of claim 31, wherein the phase transfer catalyst comprises ethylene glycol.

PATENT

Atty. Dkt. No. AVIS.1014C.Y1

35. (Previously Presented) The method of claim 31, further comprising distilling the distilled used oil mixture at a temperature of about 275°C to about 300°C and a pressure of about 0.05 torr to about 0.2 torr.
36. (Previously Presented) The method of claim 31, wherein the used oil mixture comprising used oil, phase transfer catalyst and inorganic base compound comprises of from about 1% to about 10% by weight of the phase transfer catalyst.
37. (Cancelled).
38. (Cancelled).
39. (Previously Presented) The method of claim 4, wherein a concentration of the base compound in the used oil mixture comprising used oil and base compound is between 0.5 weight percent and 5 weight percent on a dry weight basis.
40. (Previously Presented) The method of claim 17, wherein a concentration of the base compound in the used petroleum distillate mixture comprising used petroleum distillate and base compound is between 0.5 weight percent and 5 weight percent on a dry weight basis.
41. (Previously Presented) The method of claim 25, wherein a concentration of the base compound in the used oil mixture comprising used oil, ethylene glycol and base compound is between 0.5 weight percent and 5 weight percent on a dry weight basis.
42. (Previously Presented) The method of claim 31, wherein a concentration of the inorganic base compound in the used oil mixture comprising used oil and Inorganic base compound is between 0.5 weight percent and 5 weight percent on a dry weight basis.